WE CLAIM:

1. A method for cooling a water stream in an evaporative cooling tower that comprises passing the water stream thru a flow distribution means over a high surface area packing material to wet the surface of the packing material and contacting the wet packing material surface with a moving gas stream.
2. The method of claim 1 utilizing a high surface area packing having the properties of high surface area while also offering low air pressure drop resistance.
3. The method of claim 1 wherein the high surface area packing is selected from the group consisting of spherical, snowflake, or pall ring.
4. The method of claim 1 wherein the high surface area packing is constructed from a material selected from the group consisting of glass, ceramic, metal, plastic, or glass impregnated plastic.
5. The method of claim 1 wherein the high surface packing is constructed from a plastic material selected from the group consisting of, polyethylene, polypropylene, or perfluoropolyethylene.
6. The method of claim 1 utilizing a high surface area packing having the properties of high surface area allowing the packed bed depth to be reduced, thereby allowing the distribution system height to be lowered, thus reducing the circulating water pumping head and horsepower.
7. The method of claim 1 utilizing a high surface area packing having a surface area in the range of 400 square meters/ cubic meter to 3000 square meters/cubic meter.
8. The method of claim 1 utilizing a high surface area packing having a surface area in the range of 400 square meters/ cubic meter to 1500 square meters/cubic meter.
9. The method of claim 1 wherein the high surface area packing material comprises hollow spheres with passages in the body.
10. 10. An apparatus for cooling a water stream comprising an evaporative cooling tower that comprises a pumping means for delivering a cooling water stream thru a flow distribution means to deliver water flow over a high surface area packing material such that the flowing water wets the surface of the high surface area packing material and means for contacting the wet packing material surface with a moving air stream.

11. The apparatus of claim 10 utilizing a high surface area packing having the properties of high surface area while also offering low air pressure drop resistance.

12. The apparatus of claim 10 wherein the high surface area packing is selected from the group consisting of spherical, snowflake, or pall ring.

13. The apparatus of claim 10 wherein the high surface area packing is constructed from a material selected from the group consisting of glass, ceramic, metal, plastic, or glass impregnated plastic.

14. The apparatus of claim 10 wherein the high surface packing is constructed from a plastic material selected from the group consisting of, polyethylene, polypropylene, or perfluoropolyethylene.

15. The apparatus of claim 10 utilizing a high surface area packing having the properties of high surface area allowing the packed bed depth to be reduced, thereby allowing the distribution system height to be lowered, thus reducing the circulating water pumping head and horsepower.

16. The apparatus of claim 10 utilizing a high surface area packing having a surface area in the range of 400 square meters/ cubic meter to 3000 square meters/cubic meter.

17. The apparatus of claim 10 utilizing a high surface area packing having a surface area in the range of 400 square meters/ cubic meter to 1500 square meters/cubic meter.

18. The apparatus of claim 10 wherein the high surface area packing material comprises hollow spheres with passages in the body.

19. A method for retrofitting a cooling apparatus comprising replacing an existing conventional fill with a high surface area packing for reducing the approach temperature to less than 5 degrees F.

20. The method of claim 19 utilizing a high surface area packing having a surface area in the range of 400 square meters/ cubic meter to 3000 square meters/cubic meter.